THE SUPREME COURT OF APPEAL OF SOUTH AFRICA

JUDGMENT

Case No: 155/10

In the matter between:

CHARTER HI (PTY) LTD	**First Appellant**
HAW AND INGLIS (PTY) LTD	**Second Appellant**
C90 PARTNERSHIP	**Third Appellant**
and	
THE MINISTER OF TRANSPORT	**Respondent**

Neutral citation:	*Charter Hi v Minister of Transport* (155/10) [2011] ZASCA 89 (30 May 2011)
Coram:	HARMS DP, NUGENT, MAYA and MALAN JJA and PLASKET AJA
Heard:	9 May 2011
Delivered:	30 May 2010

Summary: Aircraft accident – whether accident caused by negligence of flight examiner during course of competency test of pilot for instrument rating – whether Minister of Transport vicariously liable.

ORDER

On appeal from: North Gauteng High Court (Pretoria) (Sapire AJ sitting as court of first instance):

The appeal is dismissed with costs, including the costs of two counsel.

JUDGMENT

NUGENT JA and PLASKET AJA (Harms DP, Maya and Malan JJA concurring)

[1] This appeal arises from an aircraft accident that occurred north of Cape Town on 13 December 1996. The aircraft was a twin-engine turbo-prop Beechcraft King Air C90 in which the appellants shared a financial interest. It was being piloted by Mr Jonathan Grant at the time. Seated alongside him was Mr Ray Grinstead, an official flight examiner – sometimes referred to in the evidence as a designated official flight examiner or DOFE – appointed for that purpose by the Commissioner for Civil Aviation.[1] Mr Grant was being examined so as to be certified competent for instrument flying. In the course of the flight the aircraft tumbled to the ground from an altitude of about 2 500 feet above ground level and was destroyed. Mr Grant, Mr Grinstead, and a passenger who was also aboard the aircraft, were killed. The appellants sued the state – nominally represented by the Minister of Transport – in the North Gauteng High Court (Pretoria) for the loss sustained in consequence of the destruction of the aircraft.

[2] The appellants alleged that the accident was caused by the negligence of Mr Grinstead, for which the state was alleged to be vicariously liable. The claim

[1] See s 5(4) of the Aviation Act 74 of 1962. Section 1.3 of the Air Navigation Regulations of 1976 defines an 'official examiner' as 'a person appointed by the Commissioner to conduct the certificate, licence or rating tests prescribed in these regulations for flight crew members'.

was dismissed by Sapire AJ and the appellants now appeal with his leave. The issues that arise in this appeal are whether the appellants proved that Mr Grinstead had acted negligently and, if so, whether his negligence had caused the accident; and whether the Minister was vicariously liable for Mr Grinstead's conduct.

[3] Considerable evidence was placed before the trial court. The principal witnesses were three experts who are all highly qualified and experienced aviators. Ms Lilith Seals, a former airline pilot and official flight examiner, and Dr Michael Hynes, a vastly experienced professional pilot and official flight examiner from the United States of America, were called for the appellants. Captain Selwyn Levin, a now retired airline pilot, former chief training pilot for South African Airways, a champion aerobatic pilot and an official flight examiner, was called for the Minister. Much of their evidence is taken up with explaining aviation principles and the events that led up to the accident. To the extent that there are any disputes amongst them they are narrow.

Aviation principles and terminology

[4] Some explanation of basic aviation principles and terminology is necessary to understand the evidence. The explanation that follows does not purport to be comprehensive. It is drawn from various parts of the evidence, either directly or by implication, and from the aircraft's operating manual.

[5] An aircraft is capable of moving on three axes: it pitches (nose up and nose down) around its lateral axis, it rolls around its longitudinal axis, and it rotates or 'yaws' (nose left and right) horizontally around its vertical axis. We are concerned primarily with 'yawing' in that horizontal plane.

[6] Pitching and rolling is controlled from the control column. Yawing is controlled by the rudder. The rudder is a moveable surface that makes up the trailing part of the vertical tail-plane. It is connected to pedals that are operated by the pilot's feet. Depressing the left pedal has the effect of yawing the nose in a horizontal plane to the left (through forces that are exerted by the airflow over the rudder surface). Depressing the right pedal has the effect of yawing the nose on a horizontal plane to the right.

[7] An aircraft is kept aloft by maintaining a laminar flow of air over the wings. The design of the wing is such that the airflow 'lifts' the wings (and hence the aircraft). Moveable surfaces on the trailing portion of the wings – known as 'flaps' – can be extended to provide a greater surface area and thereby impart greater lift at slower speeds.

[8] Friction of the airflow over the various parts of the aircraft impedes its progress through the air. In normal flight there is friction over the wings and the fuselage – the main body of the aircraft. The friction is increased when the flaps are extended. It is also increased substantially when the undercarriage is lowered. The impediment that is created by friction on the aircraft is known as 'drag'. Increasing the drag will slow the aircraft and the fall of speed might be compensated for by increasing the thrust.

[9] The aircraft is propelled through the air by the rotation of the propeller. In a 'turbo-prop' aircraft the propeller (in this case a propeller with four blades) is driven by a turbine engine. The thrust that is generated by the propeller is controlled by a lever operated by the pilot (the throttle) that accelerates or decelerates the turbine engine.

[10] The angle of the propeller blades relative to the air (the pitch of the blades) is capable of being varied as the occasion requires. If the power from the engine is withdrawn – whether through failure of the engine or by throttling the engine back to idling speed – the propeller will continue to be rotated by the airflow but will produce no thrust. On the contrary, it will now impede the aircraft because the rotating propeller will present itself to the oncoming airflow as a semi-solid disk. (In the evidence the propeller is said to be 'wind-milling' or 'disking'.) That impediment can be reduced substantially by altering the angle of the propeller blades so as to align them with the oncoming airflow. That is known as 'feathering' the propeller. Each propeller can be feathered independently. The blades are feathered by the pilot moving a lever.

[11] Symmetrical flight of a twin-engine aircraft with an engine mounted on each wing is maintained by keeping the thrust from both propellers in equilibrium. If the power from one engine is withdrawn that symmetry will be lost. Thrust from only one side of the aircraft will yaw the nose of the aircraft in the direction of the dead engine. The yaw in that direction is countered by depressing the rudder pedal on the opposite side (the side of the live engine) which yaws the nose in the direction of the live engine.

[12] If the laminar airflow over the wings is disrupted the 'lift' on the wings will be lost. The wings are then said to be 'stalled'. Most commonly the wings will stall if the aircraft decelerates below a critical speed (the 'stalling speed') though the wings are capable of being forced into a stall at higher speeds. When the wings of the aircraft stall and the lift is lost the nose of the aircraft will drop and the aircraft will commence an uncontrolled descent. There is a standard procedure for recovering from a stall but altitude will have been lost by the time recovery occurs.

[13] When an aircraft banks in a turn the outer wing will be moving slightly faster through the air than the inner wing. The same applies when the aircraft yaws. If the speed of the aircraft decreases towards stalling speed while it is in that configuration then the inner wing will stall momentarily before the outer wing stalls. The result will be that the inner wing will be the first to fall and the aircraft will start to invert. Once the outer wing stalls the momentum of the incipient inversion will set the aircraft rotating as it falls towards the ground. The aircraft is then said to have entered a spin.

[14] To recover from a spin the process needs to be reversed. Flight will be restored by restoring the laminar airflow over the wings, as if recovering from a stall, and the rudder will be applied to reverse the rotation. The aircraft's operating manual describes the standard spin recovery procedure as follows: 'Immediately move the control column full forward, apply full rudder opposite to the direction of the spin and reduce power on both engines to idle. These three actions should be done as near simultaneously as possible; then continue to hold this control position until rotation stops and then neutralize all controls and perform a smooth pullout. Ailerons should be neutral during recovery.'

By the time recovery occurs even more altitude will have been lost than would have been lost in a conventional stall.

[15] A pilot who is flying without a visible horizon will have grave difficulty recovering from a stall and a spin. The aircraft's operating manual describes his or her position as follows:

'Remember that if an airplane flown under instrument conditions is permitted to stall or enter a spin, the pilot, without reference to the horizon, is certain to become disoriented. He may be unable to recognize a stall, spin entry or the spin condition and he may be unable even to determine even the direction of the rotation'.

[16] A pilot is prohibited from flying in conditions of restricted visibility unless he or she is certified to do so.[2] Certification to fly in those conditions is called an 'instrument rating'. To qualify for an instrument rating a pilot must demonstrate that he or she is capable of flying the aircraft with reference to its instruments alone. Training for an instrument rating requires the lack of visibility to be simulated. That is done by the pilot donning what is called a 'hood'. A hood is a device that is worn on the head that restricts the pilot's vision to the instruments in the aircraft. Flying in that condition is commonly said to be 'flying under the hood'.

[17] A pilot who is being examined for an instrument rating will fly the aircraft 'under the hood' with the examiner seated alongside him or her. The examiner will then direct the pilot to perform various manoeuvres. Invariably the examiner, without forewarning the pilot, will also simulate abnormal conditions that might be encountered. One such abnormal condition when flying a twin-engine aircraft is the failure of one engine. Depending upon the type of aircraft there are various ways in which that can be simulated. Commonly in a turbo-prop aircraft the throttle will be reduced to idling speed. The throttle levers of the two engines are mounted alongside one another. The examiner will shield the levers from the view of the pilot and then pull one lever back to idling speed.

[18] The standard drill when an engine has failed appears from various parts of the evidence of the experts but is most conveniently described by Dr Hynes. The failure will cause the nose to yaw towards the 'dead' engine and the first step is to counter the yaw with the rudder so as to maintain symmetrical flight. At the same time the throttle levers of both engines will be advanced to produce maximum power on the live engine (whichever engine that might be). The failed

[2]See *Aviation Insurance Co Ltd v Bates & Lloyd Aviation (Pty) Ltd; Bates & Lloyd Aviation (Pty) Ltd v Aviation Insurance Co Ltd* 1982 (4) SA 838 (T) at 849A-B.

engine must then be identified with certainty. The relative pressure that is required to be exerted on the rudder pedals so as to maintain symmetrical flight should tell the pilot which engine has failed but other techniques are used to confirm that. Once the pilot is sure which engine has failed he will feather the propeller on that engine to eliminate the considerable drag that is being produced by the 'disking' of that propeller.

[19] Each propeller has its own 'feathering' lever. They are located alongside one another in the aircraft and can be moved separately or simultaneously with one hand. If the propeller on the live engine is inadvertently feathered the thrust from that propeller will be lost although that engine is producing power. It will then be as if both engines have failed and the speed of the aircraft will rapidly decline.

The accident

[20] Two pilots who had been examined by Mr Grinstead for instrument ratings shortly before the accident occurred, described the procedure that he had followed. It is accepted by both parties that he probably followed much the same procedure in this case.

[21] After taking off from Cape Town airport Mr Grant would have donned the hood and he would have performed various manoeuvres on the directions of Grinstead while they climbed towards the general flying area. In the general flying area they would have intercepted a notional line indicated by a navigational beacon on Robben Island (the 052 radial). They would then have commenced flying a standard 'holding pattern' relative to that notional line and a fixed point along that line (a point 10 nautical miles away from the beacon along that notional line).

[22] A holding pattern is the pattern that an aircraft will fly while holding its position in anticipation of landing. The pattern takes the shape of a horse racing track. The aircraft will fly for a distance towards the fixed point (the inbound leg) and then execute a 180 degree turn. It will then fly for a distance away from the fixed point (the outbound leg) and again turn 180 degrees back onto the inbound leg. And so the pattern of flying will continue. In this case it was a right-hand pattern, which means that each 180 degree turn would be to the right.

[23] A radar track of the aircraft showed that it was indeed flying in that pattern, at an altitude of 2 500 feet above the ground, and at a speed of about 148 knots, shortly before the aircraft commenced its uncontrolled descent to the ground. The wreckage revealed that the undercarriage of the aircraft had been lowered and that the flaps had been extended 15 degrees.

[24] The weight of the evidence is to the effect that Mr Grinstead simulated the failure of one engine while the aircraft was executing one of the turns and while its undercarriage was lowered and its flaps extended 15 degrees. That is what an examiner could be expected to do and it is what Grinstead had done on the previous two occasions. It is also consistent with the evidence of an observer on the ground, Mr Koos Moses, who heard the sound of the engines changing while the aircraft was executing a turn, and observed the aircraft starting to tumble to the ground immediately thereafter.

[25] It is common cause that it was shortly after the failure had been simulated that the aircraft commenced an uncontrolled spin towards the ground. The aircraft shattered upon impact and was engulfed by a fireball from the ignition of its fuel.

[26] The accident was investigated by Captain Roy Downes, an experienced aviator and accident investigator. None of his factual findings are in dispute.

[27] It appears from his report that Mr Grant had about 800 hours flying experience, of which 150 hours had been flown on the Beechcraft King Air C90. Mr Grant had first been rated for instrument flying on single-engine aircraft on 16 March 1994 and he obtained a commercial pilot's licence on 7 June 1994. On 26 April 1995 he passed his first multi-engine instrument rating while flying a Beechcraft Baron aircraft. According to the evidence the validity of an instrument rating expires after six months. Mr Grant had again been issued with an instrument rating on 11 January 1996. The occasion with which we are concerned was the first occasion that he had been examined for an instrument rating on a Beechcraft King Air C90. From that history, it is fair to say that Mr Grant's experience of instrument flying, and in particular on the aircraft type in question, was relatively limited.

[28] The vertical speed indicator found in the wreckage showed that immediately before the aircraft struck the ground it was descending at a rate of 2 650 feet per minute. Allowing for acceleration of the descent after it had commenced, the aircraft would thus have struck the ground some 60 seconds or so after it started to fall. There were indications from the wreckage that at the time of impact the left propeller had been feathered, that the left engine was running but at low speed and torque, and that the right engine had been producing power. The physical evidence also established conclusively that the aircraft was rotating clockwise immediately before it struck the ground. Captain Downes reached the following conclusion:

'On the balance of probabilities, the evidence suggests that during simulated asymmetric flight, the speed was allowed to decay below the Vmca.[3] This resulted in a critical speed yaw followed by a spin from a height that precluded any chance of recovery.'

Negligence and causation

[29] It is not every act or omission that causes harm that is actionable. This point was made by Harms JA in *Telematrix (Pty) Ltd t/a Matrix Vehicle Tracking v Advertising Standards Authority*[4] when he said:

'The first principle of the law of delict, which is so easily forgotten and hardly appears in any local text on the subject, is, as the Dutch author *Asser* points out, that everyone has to bear the loss he or she suffers. The Afrikaans aphorism is that "skade rus waar dit val". Aquilian liability provides for an exception to the rule and, in order to be liable for the loss of someone else, the act or omission of the defendant must have been wrongful and negligent and have caused the loss.'

In this matter, the element of wrongfulness is not in issue but only those of negligence and causation.

[30] At first the appellants alleged that the Department of Transport had been negligent because its instructions to flight examiners were vague and ambiguous. This allegation was abandoned. The focus of the appellants' case was on Mr Grinstead's actions.

[31] We accept that, as Mr Grinstead was the official flight examiner and Mr Grant the examinee, Mr Grinstead was in overall command of the flight and was responsible for its safety. This is so because Mr Grant was being tested for his

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[3] 'Air minimum control speed', meaning the minimum flight speed at which the aircraft is directionally controllable as determined in accordance with US Federal Aviation Regulations.

[4] *Telematrix (Pty) Ltd t/a Matrix Vehicle Tracking Advertising Standards Authority* 2006 (1) SA 461 (SCA) para 12. See too *Minister of Safety and Security v Van Duivenboden* 2002 (6) SA 431 (SCA) para 12.

competence and Mr Grinstead decided how and where Mr Grant should fly, as well as what he should do during the course of the test. Mr Grinstead, not being 'under the hood', was able to see out of the aircraft and, being able to see the horizon and the ground, was less susceptible to disorientation than Mr Grant. This finding that Mr Grinstead was in overall command of the flight accords with what was held in the American cases, dealing with broadly similar circumstances, to which we were referred by Mr Aber, who appeared for the appellants.[5]

[32] We turn now to the standard of diligence against which Mr Grinstead's conduct as official flight examiner must be judged. It was argued by Mr Aber that as Mr Grinstead was in command of the flight and of its safety, if anything went wrong he was responsible. In effect then, his argument was that, in the absence of mechanical failure or similar occurrences over which Mr Grinstead had no control, he was strictly liable. This submission is at odds with the law in general and its application to aviation in particular. In cases in which specialized skill is involved, the general standard of the reasonable person is adjusted upwards to that of the reasonable expert in the field involved: the person possessed of (or professing to be possessed of) specialized skills is required to display not the 'highest possible degree of professional skill' but 'the general level of skill and diligence possessed and exercised at the time by the members of the branch of the profession to which the practitioner belongs'.[6]

[33] In the field of aviation, this same, stricter, standard has been applied to the reasonable pilot[7] and the reasonable aerodrome operator,[8] as the statement in

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[5] *Hayes v United States of America* US 899 F. 2d 438; *Lange & another v Nelson-Ryan Flight Service Inc* 259 Minn. 460, 108 N.W. 2d 428; *Udseth v United States of America* 530F. 2d 860.
[6] *Van Wyk v Lewis* 1924 AD 438 at 444 (per Rose-Innes CJ). See too P Q R Boberg *The Law of Delict* (1984) p 346-347; Jonathan Burchell *Principles of Delict* (1993) p 87-89.
[7] See *Boshoff v Prinsloo* 1973 (1) PH J16 (T) at 42: 'He was exercising a calling which demands a high measure of skill and competence.'; *Bickle v Joint Ministers of Law and Order* 1980 (2) SA 764 (R) at 770H: 'no reasonably prudent aircraft pilot would do a compression test without first satisfying himself that the ignition was switched off'; *ZS-SVN Syndicate v 43 Air School (Pty) Ltd*

Van Wyk v Lewis[9] referred to above 'is generally accepted as a correct statement of our law when assessing conduct which requires special expertise'.[10] In this case therefore, the standard of diligence that applied to Mr Grinstead was that of the reasonable official flying examiner placed in the 'exact position' in which he found himself.[11]

[34] The appellants' case on negligence is twofold. The first is founded on a submission that a reasonable official flight examiner in the position of Mr Grinstead, particularly having jeopardised the flight by simulating the engine failure, could and would have intervened to ensure that the simulated failure did not progress to endangering the aircraft. The fact alone that the aircraft crashed, so the argument goes, establishes that Mr Grinstead negligently failed to do so. This was, Mr Aber argued, a case of *res ipsa loquitur*.

[35] The *res ipsa loquitur* argument can be disposed of quickly. In much the same way as an inference of negligence cannot be drawn from the simple fact that a collision occurred between two cars on an open road in fair weather,[12] so too, it seems to us, no inference of negligence can be drawn from the mere fact that, after Mr Grinstead simulated the engine failure, the aircraft went into a spin and crashed: the inference of negligence that is sought to be drawn is not inevitable and is, in any event, negatived by the evidence of the experts who

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2007 (6) SA 389 (E) para 38: 'A reasonable pilot in *Mr Onions'* position would in my judgment reasonably have foreseen that landing on an unmarked runway was potentially dangerous'.

[8] *ZS-SVN Syndicate v 43 Air School (Pty) Ltd* para 17: 'The operation of an aerodrome is conduct that calls for expertise'; *Welkom Municipality v Masureik & Herman t/a Lotus Corporation* 1997 (3) SA 363 (SCA) at 373B: 'There was a dearth of evidence from anyone competent to give it as to what a reasonable aerodrome operator at an aerodrome of this kind would, or should, regard as a sufficiently wide and reasonably level cleared area adjacent to the runway in question . . . .'*; Noakes v Oudtshoorn Municipality* 1980 (1) SA 626 (C) at 635D – in which, incidentally, Mr Grinstead had given expert evidence – 'A reasonable [aerodrome] licensee would have realised . . ..')

[9] Note 6 at 444.

[10] *ZS-SVN Syndicate v 43 Air School (Pty) Ltd & another* (note 7) para 18.

[11] *Van Wyk v Lewis* (note 6) at 461 (per Wessels JA).

[12] See *Road Accident Fund v Mehlomakulu* 2009 (5) SA 390 (E) para 10.

were of the opinion that anything could have happened in the cockpit and that they did not have enough facts at their disposal to speculate on what, if anything, had prevented Mr Grinstead from taking over control of the aircraft and saving the situation. The mere fact of the crash in these circumstances does not tell its own story.

[36] The response on behalf of the Minister to the allegation of negligence on the part of Mr Grinstead is that while an experienced official flight examiner might ordinarily be capable of having intervened to avoid the crash, the evidence is insufficient to find with any degree of certainty that matters indeed took their ordinary course. In support of that submission Mr Puckrin, who appeared for the Minister, relied upon what Captain Levin said was a plausible but yet catastrophic possibility of what had occurred.

[37] It is not necessary to examine that possibility more than briefly. It starts from the assumption that the failure was simulated on the left engine. Ordinarily the nose would then have yawed to the left and the tendency would have been for the aircraft to invert and then rotate anticlockwise. Explaining why the aircraft had in fact rotated clockwise Captain Levin said that that indicates that the pilot attempted to correct the yaw by violent application of the rudder, causing the aircraft to 'flick' over to a clockwise inversion, and causing it to stall and enter a spin. The suggestion was that a violent response of that kind could not have been expected or averted by Mr Grinstead.

[38] Ms Seals and Dr Hynes were sceptical of that explanation and said that they had never heard of it occurring. Captain Levin, who is a champion aerobatic pilot, could no doubt execute such a manoeuvre but it seems to us to be improbable that it occurred, not least of all because there is little basis for

assuming that the failure was simulated on the left engine. The only ground upon which that assumption was made was that, from an inspection of the wreckage, it appeared that the left propeller had been feathered and that the left engine was producing little power at the time of impact. (It has been pointed out above that the ordinary procedure upon failure of an engine is to feather the propeller on the failed engine to reduce drag caused by disking.)

[39] It is far more probable that the right engine was failed. It is to be expected that the inner engine in a turn (the right engine in this case) would be failed because that, according to Dr Hynes, is the more critical engine to fail in a turn, and thus the most testing for the examinee. That was also the engine that was chosen for simulating failure on the two previous occasions. It would also more easily explain the clockwise rotation of the spin, without the unusual circumstances suggested by Captain Levin.

[40] If that was so, then the fact that the left propeller had been feathered is explicable on the basis that Mr Grant probably feathered the wrong propeller once the engine failure had been simulated, either because he selected the wrong lever in his haste, or perhaps because he wrongly identified which engine had been failed. The fact that the left engine was producing little power on impact is not significant. It can be expected that the engines would have been throttled back in the course of attempting to recover from the spin.

[41] If the wrong propeller had been feathered then the aircraft would have been left with no power at all. An aircraft that is banking to the right, carrying considerable additional drag from the lowered undercarriage and extended flaps, and with the additional drag of the disking right propeller, would rapidly lose

speed if power were to be lost on the live engine. It would be a recipe for the wings to stall and the aircraft to enter a clockwise spin.

[42] We are not called upon to decide what indeed occurred, nor would we be justified in doing so on the scant evidence. But what has been described above is a real possibility, and Captain Levin acknowledged that it was the more plausible explanation for the accident. For present purposes we will assume in favour of the appellants that that is indeed what occurred. That assumption favours the appellants because the error was one that an experienced official flight examiner could expect to occur and thus could anticipate. Indeed, all the experts had experienced that error being made.

[43] Basing herself on that assumption Ms Seals said that the examiner should have intervened to stop the pilot feathering the wrong propeller. Captain Levin responded that he had had an examinee 'throttle back and feather a perfectly good engine before I could even open my mouth'. In our view, however, the evidence of Dr Hynes places the enquiry in its proper perspective.

[44] He pointed out that the critical question for an examiner is not whether the pilot makes an error – error by pilots is to be expected – but instead whether the pilot has the capacity to recognize and correct an error. He said that it was not uncommon for an examinee to feather the incorrect propeller and he does not fail an examinee for that reason alone. The fact that pilots can be expected at times to err necessarily means that the examiner must not intervene prematurely but must allow sufficient time to evaluate the pilot's response to the mistake. As he expressed it:

'So here he has feathered the wrong engine and do I count one, two, three, four, five, to see is the guy going to say, "oh, my God, I have feathered the wrong one", and he

undoes what he did and the flight resumes normally; we certainly would talk about that at the end of the check ride, but that would not necessarily be a fail for the check ride right there. Now if the [examinee] feathers the wrong engine and then just sits there and does not react any further, then the check ride is over… . [You] sit here and you watch and you say to yourself, what is this guy going to do next, and that is one of the issues here is that at what point must the examiner say this has gone far enough … .'

[45] The law does not call for perfection – not even on the part of official flight examiners. What it calls for is reasonable conduct. As it has been famously said: 'The concept of the [reasonable person] is not that of a timorous faint-heart always in trepidation lest he or others suffer some injury; on the contrary, he ventures out into the world, engages in affairs and takes reasonable chances'.[13] Aviation examining is clearly not for the faint-hearted: it calls for the exercise of fine judgment. The examination would fail in its purpose if the examiner baulked immediately when an error was made, but to allow the error to continue for too long, on the other hand, might cost his or her life and the lives of others. What separates the one from the other in a case of the present kind is a period of time that can be counted in seconds.

[46] On the best construction of events for the appellants, Mr Grinstead might on this occasion have erred in his judgment but that does not amount to negligence.[14] Added to that is the complete absence of information on how the pilot himself might have reacted to error in the moments after it had been made. A pilot without a visible horizon is likely to become disoriented if the aircraft stalls and even more so if it enters a spin. It is quite possible that Mr Grant compounded his error immediately after it was made and thereby prevented or inhibited Mr Grinstead from correcting the situation. As Captain Downes put it,

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[13] *Herschel v Mrupe* 1954 (3) SA 464 (A) at 490F.
[14] *Griffiths v Netherlands Insurance Co of SA Ltd* 1976 (4) SA 691 (A) at 698D-H. See too *Suidwes-Afrikaanse Munisipale Personeel Vereniging v Minister of Labour* 1978 (1) SA 1027 (SWA) at 1038G.

one is entering the realm of pure speculation. The appellants bear the onus of establishing that Mr Grinstead negligently failed to intervene and we do not think that onus was discharged.

[47] The appellants have a second string to their bow. While in reality an engine might fail at any time in the course of a flight it would be foolish to simulate the condition without sufficient altitude, and more, to allow for safe recovery. Numerous warnings to that effect – if they are needed – are contained in the operating manual of the aircraft under the heading *'STALLS, SPINS, SLOW FLIGHT, AIR MINIMUM CONTROL SPEED (Vmca), AND INTENTIONAL ONE-ENGINE-INOPERATIVE SPEED (Vsse) FOR MULTI–ENGINE AIRPLANES'*. Amongst other things the manual stipulates that '[i]n addition to the foregoing mandatory procedures', a pilot should always '[c]onduct any manoeuvres which could possibly result in a spin at altitudes in excess of five thousand (5 000) feet above ground level in clear air only'.

[48] It was submitted on behalf of the appellants that the manoeuvre in this case fell into that category and it was negligent for it to have been performed at less than 5 000 feet above ground level. (It was, in fact, performed at 2 500 feet above ground level). There was considerable debate in the court below, in particular, as to whether that requirement was indeed applicable in this case but it is not necessary to enquire into that question. We accept for present purposes the submission on behalf of the appellants that it was indeed negligent for Mr Grinstead to have directed the manoeuvre to be performed at less than 5 000 feet. It remains for the appellants to show that but for this negligent act the damage would not have occurred.

[49] In *International Shipping Co (Pty) Ltd v Bentley*[15] Corbett CJ, in dealing with the issue of whether wrongful conduct was the factual cause of loss, held:

'The enquiry as to factual causation is generally conducted by applying the so-called "but-for" test, which is designed to determine whether a postulated cause can be identified as a *causa sine qua non* of the loss in question. In order to apply this test one must make a hypothetical enquiry as to what probably would have happened but for the wrongful conduct of the defendant. This enquiry may involve the mental elimination of the wrongful conduct and the substitution of a hypothetical course of lawful conduct and the posing of the question as to whether upon such an hypothesis plaintiff's loss would have ensued or not. If it would in any event have ensued, then the wrongful conduct was not a cause of the plaintiff's loss; *aliter*, if it would not so have ensued. If the wrongful act is shown in this way not to be a *causa sine qua non* of the loss suffered, then no legal liability can arise.'

In keeping with the onus in civil matters, a plaintiff 'is not required to establish the causal link with certainty, but only to establish that the wrongful conduct was probably a cause of the loss, which calls for a sensible retrospective analysis of what would probably have occurred, based upon the evidence and what can be expected to occur in the ordinary course of human affairs rather than an exercise in metaphysics'.[16]

[50] On the argument advanced for the appellants there could have been no cause for complaint if the simulated engine failure had been initiated at 5 000 feet. Thus the question is whether the evidence shows that the aircraft would probably not have crashed had a further 2 500 feet been available for recovery. This issue was not canvassed at all in the evidence and consequently we do not have the benefit of the opinions of the expert witnesses.

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[15] *International Shipping Co (Pty) Ltd v Bentley* 1990 (1) SA 680 (A) at 700F-H.
[16] *Minister of Safety and Security v Van Duivenboden* (note 4) para 25. See too *Minister of Finance and others v Gore NO* 2007 (1) SA 111 (SCA) para 33.

[51] What is clear is that after falling for 2 500 feet the aircraft had not yet come near to recovery, because it was still rotating upon impact. There is simply no basis for finding that it would probably have recovered had it had a further 2 500 feet to fall, more particularly because one is left to speculate as to what was occurring from the time the fall commenced.

[52] Even if there was negligence on the part of Mr Grinstead, the appellants bore the onus of establishing that it was the cause of the accident. The onus in that respect has also not been discharged and the claim correctly failed.

Vicarious Liability

[53] It was alleged by the appellants that the Minister was vicariously liable for Mr Grinstead's alleged negligent conduct. In order to deal with this argument, it is necessary, in the first instance, to consider the nature of the relationship between Mr Grinstead and the Department of Transport. Evidence of this was given by Mr Renier van Zyl, an employee of the Civil Aviation Authority.

[54] His evidence was that, prior to the 1990s, flight examiners had generally speaking been employees of the Department of Transport. As a result of the rapid growth of the aviation industry, the Department found that it did not have the resources to employ sufficient numbers of flight examiners. It opted for a system that is used elsewhere in the world: the Department designated a number of pilots with the necessary qualifications and experience to act as official flight examiners. They were not employees of the Department and were not paid by the Department. A list of their names was published by the Department after they had been designated as official flight examiners. An examinee was free to choose any flight examiner from the list, would make the necessary arrangements with him or her for an examination and would pay him or her.

[55] The Department would accept the certification of the flight examiner as to the competence of the pilot who was tested and would, on the strength of the certificate, issue the appropriate licence, rating or renewal without itself assessing the competence of the examinee. Indeed, it would only become aware that a particular examination had taken place when it received the flight examiner's certificate. It simply processed the certificate administratively, issuing a successful examinee with the appropriate licence, rating or renewal.

[56] Persons designated as flight examiners were required to have an airline transport pilot licence, have a grade 1 instructor's rating and have extensive flying experience. The quality of the corps of flight examiners was maintained by the fact that they all, as a matter of course, had to undergo renewal tests every six months for their instrument ratings and every year for their airline transport pilot licences. It also appears from the document designating Mr Grinstead that the Commissioner for Civil Aviation claimed the power to 'suspend or cancel this approval at any time, should it become necessary in the interest of public safety', to insist that he conduct a flight test 'with an inspector of flying from the Civil Aviation Authority' and to 'monitor any test conducted by you'.

[57] It will be apparent from the above that there is no contractual relationship between a flight examiner and the Department. The relationship is one created by statute – sourced in the Commissioner's power, in terms of reg 1.6 of the Air Navigation Regulations – and involves a designation granted on application to the effect that the Commissioner is prepared to accept the opinion of the applicant for designation as to the competence of those who he or she examines. There is, however, a contractual nexus between the official flight examiner and the examinee, with the latter being able to choose the former and being responsible for payment of the former's fee.

[58] We turn now to the circumstances in which vicarious liability may arise. In *K v Minister of Safety and Security*[17] O'Regan J held:

'The common law principles of vicarious liability hold an employer liable for the delicts committed by its employees where the employees are acting in the course and scope of their duty as employees. The principles ascribe liability to an employer where its employees have committed a wrong but where the employer is not at fault. As such, the principles are at odds with a basic norm of our society that liability for harm should rest on fault, whether in the form of negligence or intent.'

While O'Regan J referred only to the relationship between employer and employee, vicarious liability can also arise as a result of other relationships, such as that of principal and agent,[18] but cannot arise in the case of the relationship between an independent contractor and his or her 'employer'.[19] In essence, it may arise 'by reason of a relationship between the parties and no more'[20] – almost inevitably a contractual relationship – where one of the parties exercises authority over the other.[21]

[59] In this instance, there was no contractual relationship between Mr Grinstead and the Department, whether in the nature of an employment contract or one of principal and agent. He was simply designated as a person whose expert judgment the Commissioner for Civil Aviation would accept for purposes of determining the competence of pilots. The relationship, such as it was, did not give the Commissioner control over how Mr Grinstead examined pilots and it did not place him in a position of authority over Mr Grinstead, even if he retained the power to suspend or cancel his designation or occasionally oversee or monitor

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[17] *K v Minister of Safety and Security* 2005 (6) SA 419 (CC) para 21.
[18] J Neethling, JM Potgieter and PJ Visser *Law of Delict* 5 ed (2006) (translated by JC Knobel) p344.
[19] *Colonial Mutual Life Assurance Society Ltd v MacDonald* 1931 AD 412 at 432; *Langley Fox Building Partnership (Pty) Ltd v De Valence* 1991 (1) SA 1 (A) at 8A-B; *Chartaprops 16 (Pty) Ltd v Silberman* 2009 (1) SA 265 (SCA) para 6.
[20] *Minister of Safety and Security v F* (592/09) [2011] ZASCA 3 (22 February 2011) para 15.
[21] *K v Minister of Safety and Security* (note 17) para 24.

flight tests conducted by him. Consequently, in our view, even if the appellant had proved that a negligent act or omission on the part of Mr Grinstead had caused the destruction of the aircraft, there is no merit in the argument that the Minister was vicariously liable for the damage. The appeal must fail on this ground too.

The order

[60] In the result, the appeal is dismissed with costs, including the costs of two counsel.

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RW NUGENT
Judge of Appeal

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C PLASKET
Acting Judge of Appeal

APPEARANCES:

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For respondent:	C E Puckrin SC J A Meyer SC Instructed by The State Attorney, Pretoria; The State Attorney, Bloemfontein.